

078-us1.ST25 SEQUENCE LISTING

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| gga gat gaa atg aca cga atc att tgg gaa ttg att aaa gag aaa ctc 330 Gly Asp Glu Met Thr Arg Ile Ile Trp Glu Leu Ile Lys Glu Lys Leu 15 20 25 30 | 6 |
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| gag aat cgt gat gcc acc aac gac caa gtc acc aag gat gct gca gaa 432 Glu Asn Arg Asp Ala Thr Asn Asp Gln Val Thr Lys Asp Ala Ala Glu 50 55 60 | 2 |
| gct ata aag aag cat aat gtt ggc gtc aaa tgt gcc act atc act cct 480 Ala Ile Lys Lys His Asn Val Gly Val Lys Cys Ala Thr Ile Thr Pro 65 70 75 | O |
| gat gag aag agg gtt gag gag ttc aag ttg aaa caa atg tgg aaa tca Asp Glu Lys Arg Val Glu Glu Phe Lys Leu Lys Gln Met Trp Lys Ser 80 85 90 | 3 |
| cca aat ggc acc ata cga aat att ctg ggt ggc acg gtc ttc aga gaa 576 Pro Asn Gly Thr Ile Arg Asn Ile Leu Gly Gly Thr Val Phe Arg Glu Page 1 | 5 |

Applicants: Paz Einat et al.
U.S. Serial No.: 10/618,143
Filing Date: July 11, 2003
Title: ISOCITRATE DEHYDROGENASE AND USES THEREOF

Exhibit B

110

| gcc Ala | att Ile | atc Ile | tgc Cys | aaa Lys 115 | aat Asn | atc Ile | ccc Pro | cgg Arg | ctt Leu 120 | gtg Val | agt Ser | gga Gly | tgg Trp | gta Val 125 | aaa Lys | 624 |
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| cct Pro | atc Ile | atc Ile | ata Ile 130 | ggt Gly | cgt Arg | cat His | gct Ala | tat Tyr 135 | ggg Gly | gat Asp | caa Gln | tac Tyr | aga Arg 140 | gca Ala | act Thr | 672 |
| gat Asp | ttt Phe | gtt Val 145 | gtt val | cct Pro | ggg Gly | cct Pro | gga Gly 150 | aaa Lys | gta Val | gag Glu | ata Ile | acc Thr 155 | tac Tyr | aca Thr | cca Pro | 720 |
| agt Ser | gac Asp 160 | gga Gly | acc Thr | caa Gln | aag Lys | gtg Val 165 | aca Thr | tac Tyr | ctg Leu | gta Val | cat His 170 | aac Asn | ttt Phe | gaa Glu | gaa Glu | 768 |
| ggt Gly 175 | ggt Gly | ggt Gly | gtt Val | gcc Ala | atg Met 180 | ggg Gly | atg Met | tat Tyr | aat Asn | caa Gln 185 | gat Asp | aag Lys | tca Ser | att Ile | gaa Glu 190 | 816 |
| gat Asp | ttt Phe | gca Ala | cac His | agt Ser 195 | tcc Ser | ttc Phe | caa Gln | atg Met | gct Ala 200 | ctg Leu | tct Ser | aag Lys | ggt Gly | tgg Trp 205 | cct Pro | 864 |
| ttg Leu | tat Tyr | ctg Leu | agc Ser 210 | acc Thr | aaa Lys | aac Asn | act Thr | att Ile 215 | ctg Leu | aag Lys | aaa Lys | tat Tyr | gat Asp 220 | ggg Gly | cgt Arg | 912 |
| ttt Phe | aaa Lys | gac Asp 225 | atc Ile | ttt Phe | cag Gln | gag Glu | ata Ile 230 | tat Tyr | gac Asp | aag Lys | cag Gln | tac Tyr 235 | aag Lys | tcc Ser | cag Gln | 960 |
| ttt Phe | gaa Glu 240 | gct Ala | caa Gln | aag Lys | atc Ile | tgg Trp 245 | tat Tyr | gag Glu | cat His | agg Arg | ctc Leu 250 | atc Ile | gac Asp | gac Asp | atg Met | 1008 |
| gtg Val 255 | gcc Ala | caa Gln | gct Ala | atg Met | aaa Lys 260 | tca Ser | gag Glu | gga Gly | ggc Gly | ttc Phe 265 | atc Ile | tgg Trp | gcc Ala | tgt Cys | aaa Lys 270 | 1056 |
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| tac Tyr | cag Gln 320 | aaa Lys | gga Gly | cag Gln | gag Glu | acg Thr 325 | tcc Ser | acc Thr | aat Asn | ccc Pro | att Ile 330 | gct Ala | tcc Ser | att Ile | ttt Phe | 1248 |
| gcc Ala 335 | tgg Trp | acc Thr | aga Arg | ggg Gly | tta Leu 340 | gcc Ala | cac His | aga Arg | gca Ala | aag Lys 345 | ctt Leu | gat Asp | aac Asn | aat Asn | aaa Lys 350 | 1296 |

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| att gag gct ggc ttc atg acc aag gac ttg gct gct tgc att aaa ggt Ile Glu Ala Gly Phe Met Thr Lys Asp Leu Ala Ala Cys Ile Lys Gly 370 375 380 | 1392 |
| tta ccc aat gtg caa cgt tct gac tac ttg aat aca ttt gag ttc atg Leu Pro Asn Val Gln Arg Ser Asp Tyr Leu Asn Thr Phe Glu Phe Met 385 390 395 | 1440 |
| gat aaa ctt gga gaa aac ttg aag atc aaa cta gct cag gcc aaa ctt Asp Lys Leu Gly Glu Asn Leu Lys Ile Lys Leu Ala Gln Ala Lys Leu 400 405 410 | 1488 |
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Arg Asp Ala Thr Asn Asp Gln Val Thr Lys Asp Ala Ala Glu Ala Ile 50 60 Lys Lys His Asn Val Gly Val Lys Cys Ala Thr Ile Thr Pro Asp Glu 65 70 75 80 Lys Arg Val Glu Glu Phe Lys Leu Lys Gln Met Trp Lys Ser Pro Asn 85 90 95 Gly Thr Ile Arg Asn Ile Leu Gly Gly Thr Val Phe Arg Glu Ala Ile 100 105 110 Ile Cys Lys Asn Ile Pro Arg Leu Val Ser Gly Trp Val Lys Pro Ile 115 120 125 Ile Ile Gly Arg His Ala Tyr Gly Asp Gln Tyr Arg Ala Thr Asp Phe 130 135 140 Val Val Pro Gly Pro Gly Lys Val Glu Ile Thr Tyr Thr Pro Ser Asp 145 150 155 160 Gly Thr Gln Lys Val Thr Tyr Leu Val His Asn Phe Glu Glu Gly Gly 165 170 175 Gly Val Ala Met Gly Met Tyr Asn Gln Asp Lys Ser Ile Glu Asp Phe 180 185 Ala His Ser Ser Phe Gln Met Ala Leu Ser Lys Gly Trp Pro Leu Tyr 195 200 205 Leu Ser Thr Lys Asn Thr Ile Leu Lys Lys Tyr Asp Gly Arg Phe Lys 210 215 220 Asp Ile Phe Gln Glu Ile Tyr Asp Lys Gln Tyr Lys Ser Gln Phe Glu 225 230 235 240 Ala Gln Lys Ile Trp Tyr Glu His Arg Leu Ile Asp Asp Met Val Ala 245 250 255 Gln Ala Met Lys Ser Glu Gly Gly Phe Ile Trp Ala Cys Lys Asn Tyr 260 265 270 Asp Gly Asp Val Gln Ser Asp Ser Val Ala Gln Gly Tyr Gly Ser Leu 275 280 285 Gly Met Met Thr Ser Val Leu Val Cys Pro Asp Gly Lys Thr Val Glu 290 295 300 Page 4

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| Ala 305 | Glu | Ala | Ala | His | Gly 310 | Thr | Val | Thr | Arg | Ніs 315 | Tyr | Arg | Met | Tyr | Gln 320 | |
|--|------------|------------------|------------------|------------------|------------------|------------|------------------|------------------|------------------|------------------|------------|------------------|------------------|------------------|------------------|-----|
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| Thr | Arg | Gly | Leu 340 | Ala | His | Arg | Ala | Lys 345 | Leu | Asp | Asn | Asn | Lys 350 | Glu | Leu | |
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| Asn 385 | val | Gln | Arg | Ser | Asp 390 | Tyr | Leu | Asn | Thr | Phe 395 | Glu | Phe | Met | Asp | Lys 400 | |
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| tcg Ser 10 | ctc Leu | tgc Cys | aga Arg | gcc Ala | tca Ser 15 | ggc Gly | tcg Ser | cgg Arg | ccg Pro | gcc Ala 20 | tgg Trp | gcg Ala | ccg Pro | gcg Ala | gcc Ala 25 | 161 |
| ctg Leu | aca Thr | gcc Ala | ccc Pro | acc Thr 30 | tcg Ser | caa Gln | gag Glu | cag Gln | ccg Pro 35 | cgg Arg | cgc Arg | cac His | tat Tyr | gcc Ala 40 | gac Asp | 209 |
| aaa Lys | agg Arg | atc Ile | aag Lys 45 | gtg Val | gcg Ala | aag Lys | ccc Pro | gtg Val 50 | gtg Val | gag Glu | atg Met | gat Asp | ggt Gly 55 | gat Asp | gag Glu | 257 |
| atg Met | acc Thr | cgt Arg 60 | att Ile | atc Ile | tgg Trp | cag Gln | ttc Phe 65 | atc Ile | aag Lys | gag Glu | aag Lys | ctc Leu 70 | atc Ile | ctg Leu | ccc Pro | 305 |

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| cgt Arg | gtg Val | gaa Glu | gag Glu 125 | ttc Phe | aag Lys | ctg Leu | aag Lys | aag Lys 130 | atg Met | tgg Trp | aaa Lys | agt Ser | ccc Pro 135 | aat Asn | gga Gly | 497 |
| act Thr | atc Ile | cgg Arg 140 | aac Asn | atc Ile | ctg Leu | ggg Gly | ggg Gly 145 | act Thr | gtc Val | ttc Phe | cgg Arg | gag Glu 150 | ccc Pro | atc Ile | atc Ile | 545 |
| tgc Cys | aaa Lys 155 | aac Asn | atc Ile | cca Pro | cgc Arg | cta Leu 160 | gtc Val | cct Pro | ggc Gly | tgg Trp | acc Thr 165 | aag Lys | ccc Pro | atc Ile | acc Thr | 593 |
| att Ile 170 | ggc Gly | agg Arg | cac His | gcc Ala | cat His 175 | ggc Gly | gac Asp | cag Gln | tac Tyr | aag Lys 180 | gcc Ala | aca Thr | gac Asp | ttt Phe | gtg Val 185 | 641 |
| gca Ala | gac Asp | cgg Arg | gcc Ala | ggc Gly 190 | act Thr | ttc Phe | aaa Lys | atg Met | gtc Val 195 | ttc Phe | acc Thr | cca Pro | aaa Lys | gat Asp 200 | ggc Gly | 689 |
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| ggc Gly | atg Met | ggc Gly 220 | atg Met | tac Tyr | aac Asn | acc Thr | gac Asp 225 | gag Glu | tcc Ser | atc Ile | tca Ser | ggt Gly 230 | ttt Phe | gcg Ala | cac His | 785 |
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| | cag Gln | | | | | | | | | | | | | | | 929 |
| | atc Ile | | | | | | | | | | | | | | | 977 |
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| | | | | | | | | | | 078- | us1. | ST25 | 5 | | | | |
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| į | gcc Ala | gct Ala | cat His | ggg Gly | acc Thr 350 | gtc Val | acc Thr | cgc Arg | cac His | tat Tyr 355 | cgg Arg | gag Glu | cac His | cag Gln | aag Lys 360 | ggc Gly | 1169 |
| | | | | | | | | atc Ile | | | | | | | | | 1217 |
| | ggc Gly | ctg Leu | gag Glu 380 | cac His | cgg Arg | ggg Gly | aag Lys | ctg Leu 385 | gat Asp | ggg Gly | aac Asn | caa Gln | gac Asp 390 | ctc Leu | atc Ile | agg Arg | 1265 |
| | ttt Phe | gcc Ala 395 | cag Gln | atg Met | ctg Leu | gag Glu | aag Lys 400 | gtg Val | tgc Cys | gtg Val | gag Glu | acg Thr 405 | gtg Val | gag Glu | agt Ser | gga Gly | 1313 |
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⁴⁵² PRT

Homo sapiens

<400> 4

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165 170 175 Asp Gln Tyr Lys Ala Thr Asp Phe Val Ala Asp Arg Ala Gly Thr Phe 180 185 190 Lys Met Val Phe Thr Pro Lys Asp Gly Ser Gly Val Lys Glu Trp Glu 195 200 205 Val Tyr Asn Phe Pro Ala Gly Gly Val Gly Met Gly Met Tyr Asn Thr 210 215 220 Asp Glu Ser Ile Ser Gly Phe Ala His Ser Cys Phe Gln Tyr Ala Ile 225 230 240 Gln Lys Lys Trp Pro Leu Tyr Met Ser Thr Lys Asn Thr Ile Leu Lys 245 250 255 Ala Tyr Asp Gly Arg Phe Lys Asp Ile Phe Gln Glu Ile Phe Asp Lys 260 265 270 His Tyr Lys Thr Asp Phe Asp Lys Asn Lys Ile Trp Tyr Glu His Arg 275 280 285 Leu Ile Asp Asp Met Val Ala Gln Val Leu Lys Ser Ser Gly Gly Phe

Val Trp Ala Cys Lys Asn Tyr Asp Gly Asp Val Gln Ser Asp Ile Leu 305 310 315 320

Ala Gln Gly Phe Gly Ser Leu Gly Leu Met Thr Ser Val Leu Val Cys 325 330 335

Pro Asp Gly Lys Thr Ile Glu Ala Glu Ala Ala His Gly Thr Val Thr 340 345 350

Arg His Tyr Arg Glu His Gln Lys Gly Arg Pro Thr Ser Thr Asn Pro 355 360 365

Ile Ala Ser Ile Phe Ala Trp Thr Arg Gly Leu Glu His Arg Gly Lys 370 375 380

Leu Asp Gly Asn Gln Asp Leu Ile Arg Phe Ala Gln Met Leu Glu Lys 385 390 395 400

Val Cys Val Glu Thr Val Glu Ser Gly Ala Met Thr Lys Asp Leu Ala 405 410 415

Gly Cys Ile His Gly Leu Ser Asn Val Lys Leu Asn Glu His Phe Leu 420 425 430

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